

REMARKS

Claims 1-40 are currently pending. Reconsideration of the above-identified application is respectfully requested.

The Office Action includes a rejection of claims 1-3, 13-16, 37, 39, and 40 under 35 U.S.C. § 103(a) as allegedly unpatentable over the Ohshima et al. (U.S. Patent No. 4,998,256) in view of the Wakabayashi et al. patent (U.S. Patent No. 6,101,211) or the Munks patent (U.S. Patent No. 6,587,214). This rejection is respectfully traversed.

Independent claim 1 recites a wavelength monitor comprising a cylindrical lens configured to allow a laser beam emitted from a semiconductor laser to pass therethrough, and first and second photodetectors configured to receive the laser beam passed through the cylindrical lens. The wavelength monitor further comprises a wavelength filter disposed in an optical path between the semiconductor laser and the first photodetector, wherein the wavelength filter is disposed outside an optical path between the semiconductor laser and the second photodetector.

The Office alleges that the Ohshima et al. patent (apparently Figure 6 therein) discloses all of the features recited in claim 1, except that the lens 35 is not disclosed therein as being a cylindrical lens. The Office further asserts cylindrical lenses are well known and commonly used in the art, citing the Wakabayashi et al. patent and the Munks patent for this proposition. Moreover, the Office asserts it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the Ohshima et al. system to include a cylindrical lens for the purpose of providing an optical element with desired focal properties.

Applicants respectfully submit that the Office's rejection does not make out a *prima facie* case of obviousness. As the Office is aware, to establish a *prima facie* case of obviousness, there must be a suggestion or motivation from the prior art to modify the reference or to combine disclosures, there must be a reasonable expectation of success for the proposed modification or combination, and the reference(s) must teach or suggest all of the claimed limitations (see, e.g., M.P.E.P. §§ 2143-2143.03). First, Applicants respectfully submit that the Office has not provided proper modification for modifying the device illustrated in Figure 6 in the Ohshima et al. patent. In particular, the Office's suggested motivation - to provide an optical element with desired focal properties - is too broad and vague to meet the standard noted above. For example, the Office has not specified the particular nature of the focal properties referred to and has not provided any indication of any deficiency in the focal properties of the lens 35 disclosed in Figure 6 of the Ohshima et al. patent such that one of ordinary skill in the art would have been motivated to make a modification. In short, the Office has not provided a sufficiently specific reason why one of ordinary skill in the art would have been allegedly motivated to replace the lens 35 illustrated in Figure 6 of the Ohshima et al. patent with a cylindrical lens. Withdrawal of the rejection is respectfully requested for at least these reasons.

In addition, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to replace the Ohshima et al. lens 35 with a cylindrical lens disclosed in the Munks patent at least because there would be no reasonable expectation of success. The cylindrical lens referred to by the Office at column 9, lines 21-27 of the Munks patent is shown as reference numeral 202 in Figure 9, and is disclosed as being a

beam splitter. In particular, the Munks patent discloses that a beam incident downward toward the beam splitter 202 is broken in to a first optical path 204 and a second optical path 206. The noted section of the Munks patent discloses that the beam splitter can be a cylindrical lens. In such a case, it is evident from Figure 9 that the beam splitter (cylindrical lens) 202 has a property of diverging the incident beam in the plane of the paper. In contrast, the lens 35 illustrated in Figure 6 of the Ohshima et al. patent clearly has a converging property wherein incident divergent light is converged to become parallel light. This parallel light is then passed through other portions of the system ultimately to be converged by lenses 37 and 40 onto detectors 38 and 41, respectfully. Applicants respectfully submit that if the converging lens 35 were replaced with the beam-splitting, diverging cylindrical lens disclosed in the Munks patent, there would be no reasonable expectation of success of monitoring sufficient quantities of light from the laser 31 to achieve the desired wavelength control. Accordingly, withdrawal of the rejection is respectfully requested for at least this additional reason.

Moreover, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to replace the Ohshima et al. lens 35 with a cylindrical lens as disclosed in the Wakabayashi et al. patent. In particular, the cylindrical lenses referred to by the Office, which are disclosed at column 9, lines 32-37 of the Wakabayashi et al. patent are illustrated in Figure 9e therein and are designated by reference numerals 89 and 91. As illustrated in Figure 9e, the cylindrical lenses 89 and 91 are components of a laser, are located near a laser tube 2, and serve to focus laser light through a vertically elongated slit 90 whose axis is oriented along the length of the cylindrical lenses 89 and 91. One of

ordinary skill in the art would reasonably conclude from Figure 9e of the Wakabayashi et al. patent that cylindrical lenses were chosen for lenses 89 and 91 because cylindrical lenses are geometrically well matched to focus light through the vertically elongated slit 90. Since no similar reason is apparent for using a cylindrical lens in conjunction with the device illustrated in Figure 6 of the Ohshima et al. patent, Applicants respectfully submit that one of ordinary skill in the art would not have looked to the Wakabayashi et al. patent, which is directed to the structure of a laser, for insights into modifying the device illustrated in Figure 6 of the Ohshima et al. patent. Withdrawal of the rejection is respectfully requested for at least this additional reason.

As noted at page 5 of Applicants' previous Amendment of July 7, 2003, use of a cylindrical lens as disclosed in the present application provides for uniaxial convergence of a laser beam wherein the laser beam is converged in one direction but not in another direction (see, e.g., Figure 8 of the present application, which illustrates a uniaxially converged laser beam having an elliptical shape exiting the cylindrical lens 31). As discussed at page 34, line 20 through page 38, line 3 of the present application with reference to Figures 10A-10C and 11A-11C, use of a uniaxially converged laser beam for wavelength monitoring provides an advantage compared to using a circular laser beam, because the uniaxially converged laser beam can be detected more accurately even where shifts of the laser beam occur in either or both the x- and y-directions. Neither the Ohshima et al. patent nor the Wakabayashi et al. patent nor the Munks patent have any conception of this consideration. Moreover, the Le Gall et al. publication (discussed

below) has no conception of this consideration. Of course, the claimed invention is not intended to be restricted to the examples of the above-noted figures.

For at least these reasons, withdrawal of the rejection against claims 1, 3, 37 and 39, wherein the Ohshima et al. patent is the primary applied reference, is respectfully requested. Claims 2, 13-16, and 40 are dependent claims, and withdrawal of the rejection against these claims is requested at least by virtue of their dependency.

The Office Action also includes a rejection of claims 1-3, 13-18, 37, 39 and 40 under 35 U.S.C. § 103(a) as allegedly unpatentable over the Le Gall et al. publication (U.S. Patent Application Publication No. 2002/0061039 A1) in view of either the Wakabayashi et al. patent or the Munks patent. This rejection is respectfully traversed.

Applicants respectfully submit that the Office's rejection does not make out a *prima facie* case of obviousness. First, Applicants note that the Office's stated motivation for modifying the Le Gall et al. device is the same as that asserted by the Office for modifying the Ohshima et al. device. Applicants respectfully submit that the Office's stated motivation in this regard is not adequate for reasons similar to those set forth above with regard to the similar rejection based on the Ohshima et al. patent as the primary applied reference.

In addition, Applicants respectfully submit that one of ordinary skill in the art would not have been motivated to make the Office's suggested modification of the Le Gall et al. device to include the beam-splitting, diverging cylindrical lens 202 shown in Figure 9 of the Munks patent. In particular, Applicants respectfully submit that there would be no reasonable expectation of success in such a modification at least for reasons set forth above

with regard to the similar rejection based on the Ohshima et al. patent as the primary applied reference.

Further, Applicants respectfully submit that one of ordinary skill in the art would not have looked to the Wakabayashi et al. patent, which is directed to the structure of a laser, for insights into modifying Le Gall et al. device, which is directed to a wavelength stabilization monitor. The reasons that one of ordinary skill in the art would not have been so motivated are similar to those set forth above with regard to the similar rejection based on the Ohshima et al. patent as the primary applied reference.

For at least these reasons, withdrawal of the rejection and allowance of independent claims 1, 3, 37 and 39 are respectfully requested. Claims 2, 4-36, 38 and 40 are dependent claims and are allowable at least by virtue of dependency.

The Office Action also includes, as set forth in paragraphs 5-14, a number of rejections under 35 U.S.C. § 103(a) pertaining to dependent claims 4-12, 19-36 and 38 as allegedly being unpatentable over either the Ohshima et al. patent or the Le Gall et al. publication as alternate primary references, in view the Wakabayashi et al. patent or the Munks patent, and further in view of specified additional references (U.S. Patent No. 5,095,476 to Greve et al.; U.S. Patent No. 5,224,084 to Takahashi; U.S. Patent No. 3,951,509 to Noguchi et al.; and U.S. Patent No. 6,272,157 to Broutin et al.). Claims 4-12, 19-36 and 38 depend either directly or indirectly from claim 3. Moreover, Applicants respectfully submit that the Office's reliance upon the above-noted additional references does not make up for the above-noted deficiencies of rejections of claim 3 that are based on the Ohshima et al. patent or the Le Gall et al. publication as alternate primary references.

Accordingly, withdrawal of the rejections and allowance of claims 4-12, 19-36 and 38 are respectfully requested for at least these reasons.

Further, additional reasons exist for the patentability of dependent claims. For example, with regard to claim 10, the Office alleges that it is inherent in either the Ohshima et al. patent or the Le Gall et al. publication to have a positioning member to hold the cylindrical lens in place, and that the shape of the positioning member would be a matter of design choice. Applicants respectfully point out that the Ohshima et al. patent and the Le Gall et al. publication do not disclose a cylindrical lens. In any event, the rejection does not offer any explanation to support its assertion that the shape of the positioning member would be a matter of design choice. The Federal Circuit has held that reliance upon an unsupported allegation of "design choice" is insufficient to establish a *prima facie* case of obviousness. In re Chu, 36 USPQ2d 1089 (Fed. Cir. 1995). Claim 10 is further allowable for at least this additional reason.

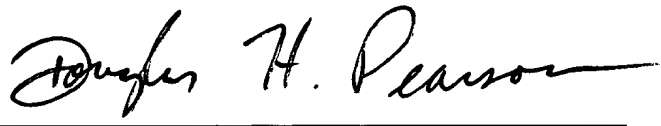
In addition, claim 11 recites a positioning member fixed to the cylindrical lens with a gold-tin alloy or with a glass material having a low melting point. Claim 11 has been rejected, but the Office's rejection does not allege where this subject matter is allegedly disclosed in the applied references. Rather, the Office's rejection treats claims 10 and 11 together (see paragraph 9 of the Office Action), but only addresses the subject matter recited in claim 10. Claim 11 is further allowable for at least this additional reason.

Further, claim 19 recites that the beam receiving faces of the first and second photodetectors are inclined relative to a plane perpendicular to an optical axis of the semiconductor laser device. The Office's asserts that it would have been obvious to incline

the photodetectors disclosed in either the Ohshima et al. patent or the Le Gall et al. publication since it has been held that rearranging parts of an invention involves only routine skill in the art. However, the Office's reliance on In re Japikse, 86 USPQ 70 (CCPA 1950) for this proposition is misplaced because that decision held that claims directed to the position of a starting switch of a hydraulic press were unpatentable because changing the position of the starter switch would not have altered the operation of the device. In contrast, the present application discloses how inclining the faces of photodetectors can prevent the signal laser beam incident on the photodetectors from being reflected back into the semiconductor laser, which could otherwise degrade the performance of the semiconductor laser (see, page 15, line 22 - page 16, line 16, for example). In other words, the present application discloses how inclining the faces of photodetectors modifies an operation of the wavelength monitor. Accordingly, In re Japikse is inapplicable in this instance, and claim 19 (and claims depending therefrom) are further allowable for at least this additional reason.

In light of the foregoing, withdrawal of the objections and rejections of record and allowance of this application are respectfully requested. Should there be any questions in connection with this application, the undersigned respectfully requests that he be contacted at the number given below.

Respectfully submitted,
BURNS, DOANE, SWECKER & MATHIS, L.L.P.

By: 

Douglas H. Pearson
Registration No. 47,851

P.O. Box 1404
Alexandria, Virginia 22313-1404
(703) 836-6620

Date: December 3, 2003